

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

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1. (Currently amended) A method for winding a stator of a brushless direct current motor having a stator body with a pre-determined number of ~~wound~~ stator teeth, wherein the stator teeth are respectively wound with two  
5 coils which are magnetically coupled and which permit the generation of opposite magnetic fields by the supply of current with variable directional orientation, and wherein each of the two coils comprises a predetermined number of conductors, the method comprising the steps of:
- 10 a) simultaneously winding each of the two coils into said stator teeth in several partial winding ~~steps,~~ steps with an even number of  $2n$  conductors, allocating a first set of  $n$  conductors of the  $2n$  conductors to a first coil of said two coils and allocating the other set of  $n$   
15 conductors of the  $2n$  conductors to ~~the other~~ a second coil of said two coils; and,
- b) repeating step a) until the predetermined number of conductors per coil has been reached.

2-4 (Canceled)

5. (Withdrawn) Stator for a brushless direct current motor, the stator comprising:

a stator body (9) with a pre-determined number of wound stator teeth (3), the stator teeth (3) being respectively wound with two coils ( $W1, W3; W2, W4$ ) which are

magnetically coupled and which facilitate by the supply of current of variable directional orientation the generation of opposing magnetic fields in said stator teeth;

each of the two coils (W1, W3, or W2, W4) including a predetermined even number of  $2n$  conductors, of which a first set of  $n$  conductors are allocated to a first one of the two coils and the other  $n$  conductors are allocated to the other coil of the two coils; and,

the  $2n$  conductors being conducted over the stator teeth in a substantially constant position relative to each other over the entire coil length.

6-10 (Canceled)

11. (Currently amended) A coil winding method for winding a predetermined number of conductors to form a set of magnetically coupled coil pairs on a plurality of stator teeth of a stator body in a motor, each set of coil pairs  
5 generating opposing magnetic fields in the plurality of stator teeth, the coil winding method comprising the steps of:

~~a) in a first partial coil winding step,~~  
simultaneously winding  $2n$  conductors together onto a first  
10 plurality of stator teeth of said stator body; ~~b) selecting~~  
body, a first group  $n_1$  of said  $2n$  conductors ~~and assigning~~  
~~the first group  $n_1$  being assigned~~ to a first coil of said set  
of magnetically coupled coil pairs; ~~c) selecting pairs and~~  
a second group  $n_2$  of said  $2n$  conductors ~~and assigning the~~  
15 ~~second group  $n_2$  being assigned~~ to a second coil of said set  
of magnetically coupled coil pairs; and,

~~d) repeating steps a) through c)~~ said

simultaneous winding of said  $2n$  conductors until said predetermined number of conductors are wound onto said first plurality of stator teeth to form a first magnetically coupled coil pair of said set of magnetically coupled coil pairs.

12. (Currently amended) ~~The A coil winding method according to claim 11 further including:~~ for winding a predetermined number of conductors to form a set of magnetically coupled coil pairs on a plurality of stator teeth of a stator body in a motor, each set of coil pairs generating opposing magnetic fields in the plurality of stator teeth, the coil winding method comprising:

a) in a first partial coil winding step, simultaneously winding  $2n$  conductors together onto a first plurality of stator teeth of said stator body;

b) selecting a first group  $n_1$  of said  $2n$  conductors and assigning the first group  $n_1$  to a first coil of said set of magnetically coupled coil pairs;

c) selecting a second group  $n_2$  of said  $2n$  conductors and assigning the second group  $n_2$  to a second coil of said set of magnetically coupled coil pairs;

d) repeating steps a) through c) until said predetermined number of conductors are wound onto said first plurality of stator teeth to form a first magnetically coupled coil pair of said set of magnetically coupled coil pairs; and,

winding said predetermined number of conductors on a second plurality of stator teeth of said stator body in said motor to form a second magnetically coupled coil pair of said set of magnetically coupled coil pairs.

13. (Previously presented) The method according to claim 12 wherein the step of winding said predetermined number of conductors on said second plurality of stator teeth includes the steps of:

5 e) in a second partial coil winding step, simultaneously winding  $2n$  conductors together onto a second plurality of stator teeth of said stator body;

f) selecting a third group  $n_3$  of said  $2n$  conductors and assigning the third group  $n_3$  to a third coil  
10 of said set of magnetically coupled coil pairs;

g) selecting a fourth group  $n_4$  of said  $2n$  conductors and assigning the fourth group  $n_4$  to a fourth coil of said set of magnetically coupled coil pairs; and,

h) repeating steps e) through g) until said  
15 predetermined number of conductors are wound onto said second plurality of stator teeth to form said second magnetically coupled coil pair of said set of magnetically coupled coil pairs.

14. (Previously presented) The method according to claim 13 wherein;

the first partial coil winding step includes simultaneously winding said  $2n$  conductors onto said first  
5 plurality of stator teeth different from said second plurality of stator teeth; and,

the second partial coil winding step includes simultaneously winding said  $2n$  conductors onto said second plurality of stator teeth different from said first  
10 plurality of stator teeth.

15. (Previously presented) The method according to claim 14 wherein:

the first partial coil winding step of simultaneously winding said  $2n$  conductors onto said first plurality of stator teeth includes simultaneously winding two conductors onto said first set of six stator teeth; and,

the second partial coil winding step of simultaneously winding said  $2n$  conductors onto said second plurality of stator teeth includes simultaneously winding two conductors onto said second set of six stator teeth.

16. (Currently amended) ~~The~~ A coil winding method according to claim 11 for winding a predetermined number of conductors to form a set of magnetically coupled coil pairs on a plurality of stator teeth of a stator body in a motor, each set of coil pairs generating opposing magnetic fields in the plurality of stator teeth, the coil winding method comprising:

a) in a first partial coil winding step, simultaneously winding  $2n$  conductors together onto a first plurality of stator teeth of said stator body;

b) selecting a first group  $n_1$  of said  $2n$  conductors and assigning the first group  $n_1$  to a first coil of said set of magnetically coupled coil pairs;

c) selecting a second group  $n_2$  of said  $2n$  conductors and assigning the second group  $n_2$  to a second coil of said set of magnetically coupled coil pairs; and,

d) repeating steps a) through c) until said predetermined number of conductors are wound onto said first plurality of stator teeth to form a first magnetically coupled coil pair of said set of magnetically coupled coil

*J1*  
pairs; and, wherein: the step of assigning said first group  $n_1$  of said  $2n$  conductors includes, prior to performing each said at least one first partial winding step, connecting said first group  $n_1$  of said  $2n$  conductors to a first  
25 electrical connection contact  $15_I$  on said stator ~~body; and,~~  
body, and the step of assigning said second group  $n_2$  of said  $2n$  conductors includes, prior to performing each said at least one first partial winding step, connecting said second group  $n_2$  of said  $2n$  conductors to a second electrical  
30 connection contact  $15_{II}$  on said stator body.

17. (Previously presented) The method according to claim 16 wherein:

the step of assigning said first group  $n_1$  of said  $2n$  conductors further includes, after performing said each  
5 at least one first partial winding step, connecting said first group  $n_1$  of said  $2n$  conductors to a third electrical connection contact  $15_{III}$  on said stator body; and,

the step of assigning said second group  $n_2$  of said  $2n$  conductors further includes, after performing said each  
10 at least one first partial winding step, connecting said second group  $n_2$  of said  $2n$  conductors to a fourth electrical connection contact  $15_{IV}$  on said stator body.

18. (Currently amended) A stator having a stator body defining a plurality of stator teeth carrying conductors to form a set of magnetically coupled coil pairs, the conductors being wound onto said stator teeth by:

5 ~~a)~~ in a first partial coil winding step, forming a first coupled coil pair by:

a) simultaneously winding  $2n$

conductors together onto a first plurality of stator teeth of said stator body;

10                   b) selecting a first group  $n_1$  of said ~~2n conductors~~ and assigning the first group  $n_1$  to a first coil of said ~~set of magnetically first~~ coupled coil ~~pairs~~ pair; and,

15                   c) selecting a second group  $n_2$  of said ~~2n conductors~~ and assigning the second group  $n_2$  to a second coil of said ~~set of magnetically first~~ coupled coil ~~pairs~~ pair; and,

20                   d) repeating steps a) through c) until said predetermined number of conductors are wound onto said first plurality of stator teeth to form [a] said first magnetically coupled coil pair of said set of magnetically coupled coil pairs.

19. (Previously presented) A stator having a stator body defining a plurality of stator teeth carrying conductors to form sets of magnetically coupled coil pairs, the conductors being wound onto said stator teeth by:

5                   a) in a first partial coil winding step, simultaneously winding a first pair of conductors together onto a first plurality of stator teeth of said stator body;

10                   b) selecting a first group  $n_1$  of said first pair of conductors and assigning the first group  $n_1$  to a first coil of said set of magnetically coupled coil pairs;

                  c) selecting a second group  $n_2$  of said first pair of conductors and assigning the second group  $n_2$  to a second coil of said set of magnetically coupled coil pairs;

15                   d) repeating steps a) through c) until a predetermined number of conductors are wound onto said first

plurality of stator teeth to form a first magnetically coupled coil pair;

e) in a second partial coil winding step, simultaneously winding a second pair of conductors together  
20 onto a second plurality of stator teeth of said stator body different from said first plurality of stator teeth;

f) selecting a third group  $n_3$  of said second pair of conductors and assigning the third group  $n_3$  to a third  
coil of said set of magnetically coupled coil pairs;

25 g) selecting a fourth group  $n_4$  of said second pair of conductors and assigning the fourth group  $n_4$  to a fourth coil of said set of magnetically coupled coil pairs; and,

h) repeating steps e) through g) until a  
30 predetermined number of conductors are wound onto said second plurality of stator teeth to form a second magnetically coupled coil pair.

20. (Previously presented) A coil winding method for winding a predetermined number of conductors to form a set of magnetically coupled coil pairs on a plurality of stator teeth of a stator body in a motor, each set of  
5 coil pairs generating opposing magnetic fields in the plurality of stator teeth, the coil winding method comprising:

a) in a partial coil winding step, simultaneously winding  $2n$  conductors together onto a first  
10 plurality of stator teeth of said stator body;

b) selecting a first group  $n_1$  of said  $2n$  conductors and assigning the first group  $n_1$  to a first coil of said set of magnetically coupled coil pairs by, prior to



performing said partial winding step, connecting said first  
15 group  $n_1$  of said  $2n$  conductors to a first electrical  
connection contact on said stator body;

c) selecting a second group  $n_2$  of said  $2n$   
conductors and assigning the second group  $n_2$  to a second coil  
of said set of magnetically coupled coil pairs by, prior to  
20 performing said partial winding step, connecting said second  
group  $n_2$  of said  $2n$  conductors to a second electrical  
connection contact on said stator body; and,

d) repeating steps a) through c) until said  
predetermined number of conductors are wound onto said first  
25 plurality of stator teeth to form a first magnetically  
coupled coil pair of said set of magnetically coupled coil  
pairs.

21. (Previously presented) A coil winding  
method for winding a predetermined number of conductors to  
form a set of magnetically coupled coil pairs on a plurality  
of stator teeth of a stator body in a motor, each set of  
5 coil pairs generating opposing magnetic fields in the  
plurality of stator teeth, the coil winding method  
comprising:

a) in a first partial coil winding step,  
simultaneously winding a first pair of conductors together  
10 onto a first plurality of stator teeth of said stator body;

b) selecting a first group  $n_1$  of said first pair  
of conductors and assigning the first group  $n_1$  to a first  
coil of said set of magnetically coupled coil pairs;

c) selecting a second group  $n_2$  of said first pair  
15 of conductors and assigning the second group  $n_2$  to a second  
coil of said set of magnetically coupled coil pairs;

d) repeating steps a) through c) until said predetermined number of conductors are wound onto said first plurality of stator teeth to form a first magnetically coupled coil pair of said set of magnetically coupled coil pairs;

e) in a second partial coil winding step, simultaneously winding a second pair of conductors together onto a second plurality of stator teeth of said stator body different from said first plurality of stator teeth;

f) selecting a third group  $n_3$  of said second pair of conductors and assigning the third group  $n_3$  to a third coil of said set of magnetically coupled coil pairs;

g) selecting a fourth group  $n_4$  of said second pair of conductors and assigning the fourth group  $n_4$  to a fourth coil of said set of magnetically coupled coil pairs; and,

h) repeating steps e) through g) until said predetermined number of conductors are wound onto said second plurality of stator teeth to form said second magnetically coupled coil pair of said set of magnetically coupled coil pairs.

22. (New) A stator having a stator body defining a plurality of stator teeth carrying conductors to form a set of magnetically coupled coil pairs, the conductors being wound onto said stator teeth by:

forming a first coupled coil pair by:

a) simultaneously winding  $2n$  conductors together onto a first plurality of stator teeth of said stator body;

b) selecting a first group  $n_1$  of said

- 10        2n conductors and assigning the first group  $n_1$  to  
         a first coil of said first coupled coil pair; and,  
         c)        selecting a second group  $n_2$  of said  
         2n conductors and assigning the second group  $n_2$  to  
         a second coil of said first coupled coil pair;  
15        repeating steps a) through c) until said  
         predetermined number of conductors are wound onto said first  
         plurality of stator teeth to form said first magnetically  
         coupled coil pair of said set of magnetically coupled coil  
         pairs;  
20        forming a second coupled pair by:  
         d)        simultaneously winding 2n  
         conductors together onto a second plurality of  
         stator teeth of said stator body;  
         e)        selecting a first group  $n_1$  of said  
25        2n conductors and assigning the first group  $n_1$  to  
         a first coil of said second coupled coil pair;  
         and,  
         f)        selecting a second group  $n_2$  of said  
         2n conductors and assigning the second group  $n_2$  to  
30        a second coil of said second coupled coil pair;  
         repeating steps d) through f) until said  
         predetermined number of conductors are wound onto said  
         second plurality of stator teeth to form said second  
         magnetically coupled coil pair of said set of magnetically  
35 coupled coiled pairs.

23. (New)        The method according to claim 11  
further including:

winding said predetermined number of conductors on  
a second plurality of stator teeth of said stator body in

5 said motor to form a second magnetically coupled coil pair of said set of magnetically coupled coil pairs.

24. (New) The method according to claim 23 wherein the step of winding said predetermined number of conductors on said second plurality of stator teeth includes the steps of:

- 5 e) in a second partial coil winding step, simultaneously winding  $2n$  conductors together onto a second plurality of stator teeth of said stator body;
- f) selecting a third group  $n_3$  of said  $2n$  conductors and assigning the third group  $n_3$  to a third coil  
10 of said set of magnetically coupled coil pairs;
- g) selecting a fourth group  $n_4$  of said  $2n$  conductors and assigning the fourth group  $n_4$  to a fourth coil of said set of magnetically coupled coil pairs; and,
- h) repeating steps e) through g) until said  
15 predetermined number of conductors are wound onto said second plurality of stator teeth to form said second magnetically coupled coil pair of said set of magnetically coupled coil pairs.

25. (New) The method according to claim 24 wherein;

(the first partial coil winding step) includes simultaneously winding said  $2n$  conductors onto said first  
5 plurality of stator teeth different from said second plurality of stator teeth; and,

the second partial coil winding step includes simultaneously winding said  $2n$  conductors onto said second plurality of stator teeth different from said first

10 plurality of stator teeth.

26. (New) The method according to claim 25  
wherein:

the first partial coil winding step of  
15 simultaneously winding said 2n conductors onto said first  
plurality of stator teeth includes simultaneously winding  
two conductors onto said first set of six stator teeth; and,  
the second partial coil winding step of  
simultaneously winding said 2n conductors onto said second  
20 plurality of stator teeth includes simultaneously winding  
two conductors onto said second set of six stator teeth.

27. (New) The method according to claim 11  
wherein:

the step of assigning said first group  $n_1$  of said  
2n conductors includes, prior to performing each said at  
5 least one first partial winding step, connecting said first  
group  $n_1$  of said 2n conductors to a first electrical  
connection contact 15<sub>I</sub> on said stator body; and,


the step of assigning said second group  $n_2$  of said  
2n conductors includes, prior to performing each said at  
10 least one first partial winding step, connecting said second  
group  $n_2$  of said 2n conductors to a second electrical  
connection contact 15<sub>II</sub> on said stator body.

28. (New) The method according to claim 27  
wherein:

the step of assigning said first group  $n_1$  of said  
2n conductors further includes, after performing said each  
5 at least one first partial winding step, connecting said

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first group  $n_1$  of said  $2n$  conductors to a third electrical connection contact 15<sub>III</sub> on said stator body; and,

 the step of assigning said second group  $n_1$  of said  $2n$  conductors further includes, after performing said each 10 at least one first partial winding step, connecting said second group  $n_2$  of said  $2n$  conductors to a fourth electrical connection contact 15<sub>IV</sub> on said stator body.

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